

Attorney Docket No.: 06244-0002 (CHM-0003)
Inventors: Hulkower et al.
Serial No.: 10/775,780
Filing Date: February 10, 2004
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This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-136 (canceled).

Claim 137 (new): A device for detecting an analyte comprising:

an analyte-specific compound that binds to a select analyte so that a detectable compound is produced; and

at least one porphyrin dye which binds the detectable compound thereby producing a detectable response.

Claim 138 (new): The device of claim 137, further comprising:

an enzyme conjugated to the analyte-specific compound; and
a substrate of the enzyme, wherein the enzyme and substrate produce the detectable compound.

Claim 139 (new): The device of claim 137, further comprising:

a conjugate comprising an enzyme and a non-analyte-specific compound, wherein the non-analyte specific compound binds to the analyte-specific compound; and

a substrate of the enzyme, wherein the enzyme and substrate produce the detectable compound.

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Claim 140 (new): The device of claim 138, further comprising a capture analyte-specific compound.

Claim 141 (new): The device of claim 139, further comprising a capture analyte-specific compound.

Claim 142 (new): A device for quantifying an analyte in a sample comprising:

- a tracer comprising an analyte molecule bound to an enzyme;
- a receptor molecule which binds an analyte molecule from a sample or the tracer;

- a substrate of the enzyme, wherein the enzyme and substrate produce a detectable compound; and

- at least one porphyrin dye which binds the detectable compound thereby producing a detectable response.

Claim 143 (new): A method for detecting an analyte comprising:

- a) exposing an analyte to an analyte-specific compound so that the analyte-specific compound binds to the analyte;

- b) producing a detectable compound when the analyte-specific compound is bound to the analyte;

- c) exposing the detectable compound to at least one porphyrin dye to produce a response, the response being stronger and more distinct than a response of the analyte when exposed to the at least one porphyrin dye in the absence of the analyte-specific compound.

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Claim 144 (new): The method of claim 143, wherein the analyte-specific compound is conjugated to an enzyme and the detectable compound of step b) is produced by contacting the enzyme with a substrate of the enzyme.

Claim 145 (new): The method of claim 143, wherein step a) is followed by the step of:

contacting the bound analyte-specific compound with a conjugate comprising an enzyme and a non-analyte-specific compound so that the detectable compound of step b) is produced by contacting the enzyme with a substrate of the enzyme.

Claim 146 (new): The method of claim 143, further comprising the prestep of contacting the analyte with a capture analyte-specific compound so that the capture analyte-specific compound binds to the analyte.

Claim 147 (new): A method for quantitating an analyte in a sample comprising the steps of:

a) contacting a receptor molecule with an analyte molecule in a sample in the presence of a tracer comprising an analyte molecule bound to an enzyme;

b) allowing the receptor to bind to the tracer or analyte molecule;

c) contacting the bound receptor with a substrate of the enzyme, wherein the enzyme and substrate produce a detectable compound; and

d) contacting the detectable compound with at least one porphyrin dye which binds the detectable compound thereby

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producing a detectable response, wherein the detectable response is inversely proportional to the quantity of the analyte in the sample.

Claim 148 (new): A kit for detecting an analyte comprising an analyte-specific compound and at least one porphyrin dye.

Claim 149 (new): The kit of claim 148, further comprising an enzyme conjugated to the analyte-specific compound and a substrate of the enzyme.

Claim 150 (new): The kit of claim 148, further comprising a conjugate comprising an enzyme and a non-analyte-specific compound and a substrate of the enzyme.

Claim 151 (new): The kit of claim 149, further comprising a capture analyte-specific compound.

Claim 152 (new): The kit of claim 150, further comprising a capture analyte-specific compound.

Claim 153 (new): A kit for quantifying an analyte in a sample comprising a tracer comprising an analyte molecule bound to an enzyme, a receptor molecule, a substrate of the enzyme, and at least one porphyrin dye.